

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554**

**Via Electronic Filing**

In the Matter of	)	
Accelerating Wireless Broadband Deployment by	)	WT Docket No. 17-79
Removing Barriers to Infrastructure Investment	)	

**COMMENTS OF STARRY, INC. TO NOTICE OF PROPOSED RULEMAKING AND  
NOTICE OF INQUIRY**

**I. Introduction**

Starry, Inc., is a Boston- and New York-based technology company that is utilizing millimeter waves to re-imagine last-mile broadband access as an alternative to fixed wireline broadband. Starry is currently deploying its proprietary fixed 5G wireless technology in the Boston-area, with plans to expand to our presence to additional U.S. cities by the end of 2017.

Emerging 5G technologies, such as Starry's, offer an opportunity to use previously untapped millimeter wave spectrum to deploy next generation wireless technologies that have the potential to not just narrow the digital access divide, but close it all together. 5G represents an opportunity to use millimeter wave spectrum in new and innovative ways, providing another choice in connectivity for millions of people and small businesses, in both urban and rural areas. These new technologies will also speed the development of 'Smart Cities' and Gigabit Opportunity Zones, areas that serve as magnets for start-ups and other businesses that require high bandwidth capacity. Starry's ability to provide wireless last-mile connectivity to households means that we can significantly reduce the time and cost of deployment and provide a competitive alternative for consumers in markets where there may be only one fixed-wireline internet provider. And, pursuing a wireless deployment model also decreases the community friction caused by tearing up sidewalks and streets to lay traditional cable or fiber.

The Commission is seeking innovative solutions to updating the regulatory framework guiding wireless infrastructure deployments across the country. In this process, we respectfully urge the Commission to consider the potential impact of any regulatory changes to companies both large and small, ensuring that any regulatory updates level the playing field, rather than tilt it in favor of one set of companies.

In infrastructure deployment, time is money. Each day that a project runs behind schedule increases the cost of personnel, materials and loss of potential revenue. Those costs are compounded the longer the delay, with those costs often absorbed by the customer or taken as a loss by the company. Unexpected delays can wreak havoc on the economic viability of a project

and the domino effect of those delays can be swift and punishing. A delay in any part of the chain of deployment increases costs at every step in the process. For startups or new market entrants with limited budgets and staff, this can spell disaster.

To understand those costs and the consequences of unnecessary and onerous delays, consider what goes into today's process of siting one piece of wireless equipment in a typical city:

To prepare a site for deployment, one must first identify a site. It sounds simple enough, but because of the insidious impact of unexpected delays, it forces companies to approach site acquisition as an exercise in risk management. It requires a company to evaluate and analyze over a dozen potential deployment sites in order to yield one functional site that has been pre-determined to have the least amount of "delay risk" associated with it. Once the site is identified, then the process of negotiating a lease begins, which can take several weeks or months, depending on the type of site and owner. Once a lease agreement is in place, then plans for pulling or leasing fiber and electricity to the site are put into place, and the appropriate applications for permits and review (local and federal) are submitted, a process that can take several months. This entire process involves the work and time of company project managers, lawyers and operations staff. And even if all moves according to plan, the process still requires weeks, if not months of diligence.

For a company like Starry, an unexpected delay in this process of 30 days can translate to a delay of 45 days or more for our business, due to this domino effect. And for every month that a site deployment is delayed, it costs our company thousands of dollars in site rental fees and other related costs. Multiply that over multiple sites in multiple cities and delay costs can become a significant financial drag, an added 'tax' on companies, not to mention a detriment to our customers who must wait longer for service. This is why Starry invests in a tremendous amount of contingency planning upfront to head off unexpected delays. However, that contingency planning incurs real costs in terms of site application fees, site visits, and lease reviews for sites that may never be deployed on. We understand that this is a cost of doing business in infrastructure deployment, but those resources ideally would be invested in technology development, not diverted to risk managing site acquisition and deployment.

For incumbent providers, these issues, while costly, are not an outright barrier to deployment. However, these barriers are magnified exponentially at startup companies that cannot stomach the risk or afford the money, time or the personnel to devote to this painstaking process. By virtue of their scale and access to resources, incumbent providers have the natural advantage and ability to write off these barriers as a cost of doing business. Startups don't have that same luxury.

The societal and economic benefits of deploying more broadband to connect consumers and communities are vast. We know that when communities have access to reliable broadband, they are more productive and economically robust.<sup>1</sup> We also know that consumers benefit from

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<sup>1</sup> White House Council of Economic Advisors, March 2016 Issue Brief;  
[https://obamawhitehouse.archives.gov/sites/default/files/page/files/20160308\\_broadband\\_cea\\_issue\\_brief.pdf](https://obamawhitehouse.archives.gov/sites/default/files/page/files/20160308_broadband_cea_issue_brief.pdf)

decreased prices and increased quality of service when internet service providers compete in a market.<sup>2</sup> However, we also know that communities have deep concerns about unfettered deployment of wireless equipment on homes, rooftops and towers. We believe that a balance can be struck that preserves the rights of local communities, but also enables consumers to benefit from more choice and competition driven by the technological advances of the 5G evolution.

Starry will address broadly high-level issues and policy concerns we believe the Commission should consider. Starry's comments will focus on two key points:

- Approval by local Historic Review Board should eliminate the need for an additional federal historical review.
- Refining OTARD rules to capture additional classes of equipment that meet the requirements is a light-touch way to further reduce deployment barriers

New 5G technologies are just beginning to emerge. The applications are diverse, from gigabit-capable fixed wireless broadband services like Starry, to densifying small cells to improve mobile networks, to the Internet of Things; the future of 5G is still unwritten. And the companies creating new these new technologies run the gamut, from small startups around the country to incumbent telecommunications providers. Removing unnecessary barriers to infrastructure deployment will ensure that we don't limit what those innovations and technology advances can do for consumers.

## **II. APPROVAL BY LOCAL HISTORIC REVIEW BOARD SHOULD ELIMINATE THE NEED FOR AN ADDITIONAL FEDERAL HISTORICAL REVIEW**

The NPRM and NOI seek comment on where the Commission can further streamline review of collocations in and around historic districts. The Commission asks whether it is reasonable to exclude from Section 106 review, collocations that have been reviewed and approved by a Certified Local Government or has received approval in the form of a Certificate of Appropriateness from a local historic preservation review body. We believe that it is eminently reasonable to rely on the local governing body, be it a Certified Local Government or local historic preservation review body, in approving collocations over which they have jurisdiction and not require a further level of federal review under Section 106.

In our experience, a local historic preservation review body is best situated to determine whether a collocation is appropriate for the historic district. The rigorous application and review process of local historic preservation review bodies, such as those in the Boston-area, ensure that

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<sup>2</sup> National Broadband Plan, Chapter 4: <http://www.broadband.gov/plan/4-broadband-competition-and-innovation-policy/>  
Benefits of Competition in Mobile Broadband, William Lehr, MIT: <https://ecfsapi.fcc.gov/file/7521094967.pdf>  
The Role of Competition in National Broadband Policy, Robert D. Atkinson, ITIF;  
<http://www.itif.org/files/BroadbandCompetition.pdf>

any deployment of visible wireless equipment is appropriate, fits within the character of the neighborhood and serves the community's interests. Additionally, members of the local historic preservation review body often reside within the district and therefore have a strong interest in adhering to a rigorous process that ensures the preservation of the historic character of their neighborhood. The additional layer of Section 106 review adds another cumbersome step to the review process, often requiring duplicative documents that have already been deeply scrutinized by the local review board. Eliminating Section 106 review would materially speed deployment of wireless infrastructure equipment without significant risk to the local historic district – while also preserving local authority.

### **III. REFINING OTARD RULES TO CAPTURE ADDITIONAL CLASSES OF EQUIPMENT THAT MEET THE REQUIREMENTS IS A LIGHT-TOUCH WAY TO FURTHER REDUCE DEPLOYMENT BARRIERS**

In 1996, the Commission adopted rules that protect a property owner or tenant's right to install, maintain and use an "Over-the-Air-Reception-Device" (OTARD) or antenna to receive video programming, broadband radio services, broadcast television and fixed wireless signals, provided they fall within the dimensions laid out in the rule.<sup>3</sup> The OTARD rules are designed to facilitate a consumer's access to new technologies, including fixed wireless broadband, while maintaining local authority to impose restrictions that accomplish a safety objective. OTARD has been a success in not only protecting owner and tenant rights, but also helping spur a competitive market for video programming over the last two decades. OTARD has been a powerful tool because of its clarity of purpose and well-defined guidelines that make clear what is allowable under the rule.

As 5G technologies continue to evolve, it is becoming apparent that the equipment utilized in these bands tends to be smaller in form factor and more nimble than its predecessors.<sup>4</sup> Due to the characteristics of these spectrum bands, the equipment being developed for millimeter wave technologies can feasibly easily fall within the dimensional parameters of OTARD. Starry's wireless equipment is a great example. Starry's network node, Starry Beam, measures 18.1" (H) x 17.5" (W) x 11.2" (D), or roughly, the size of a tabloid newspaper. Starry Beam communicates to Starry Point, the customer premise equipment (CPE), which is smaller in size at 12.5" (H) x 14" (W) x 10.5" (D) and we anticipate can shrink further as we iterate on design.

Amending OTARD to include any non-CPE transmitter for fixed wireless services covered under the rule that meets both the size standards and serves only CPEs that also meet the OTARD standards, would be a reasonable and simple way to streamline the siting process for small wireless equipment. Rather than creating new regulations, adapting a current regulation to

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<sup>3</sup> 47 C.F.R. § 1.4000.

<sup>4</sup> "What Is 5G?" PC Magazine, May 1, 2017; <http://www.pcmag.com/article/345387/what-is-5g>;

"Samsung Makes Strides in Shrinking 5G Antennas" Microwaves & RF, July 2, 2016; <http://www.mwrf.com/active-components/samsung-makes-strides-shrinking-5g-antennas>

better address 21<sup>st</sup> century technologies would better serve consumers and communities who continue to grapple with how to manage the deployment of new wireless equipment.

The FCC has amended OTARD rules on two prior occasions, in 1999, to include rental property where the renter has an exclusive use area, such as a balcony or patio and again in 2001 to include customer-end antennas that receive and transmit fixed wireless signals.<sup>5</sup> It is within the FCC's authority to amend OTARD rules once more to include non-CPE equipment that communicates with CPEs and complies with the current size and safety parameters of the rule. We urge the Commission to propose new rules to amend Part 1.4000 of its rules to provide for protection of base stations that meet the same size requirements under Part 1.4000 and are used solely to serve CPE that also meet the same rules.

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Starry applauds the Commission's work on these issues and its thoughtful approach to balancing the needs of local communities while also recognizing the need to accelerate wireless infrastructure deployment in order to expand access to broadband for communities across our country.

Respectfully submitted,

Starry, Inc.



By: \_\_\_\_\_

*Virginia Lam Abrams*  
*Senior Vice President, Communications &*  
*Government Relations*

**Starry, Inc.**  
**38 Chauncy Street, 2<sup>nd</sup> Floor**  
**Boston, Massachusetts 02111**

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<sup>5</sup> See *Promotion of Competitive Networks in Local Telecommunications Markets, et al.*, First Report and Order and Further Notice of Proposed Rulemaking, 14 FCC Rcd 12673 (2000); *Promotion of Competitive Networks in Local Telecommunications Markets, et al.*, First Report and Order and Further Notice of Proposed Rulemaking, 15 FCC Rcd 22983 (2001).